VOL 5:NO 5 Jul/Aug 87

SINCUS NEWS

----------the newsletter of the----------
Sinclair Computer Users Society
1229 Rhodes Road
Johnson City, New York 13790
----------Since 1982----------

CORRECTIONS-pages 13 & 14 are reversed-Proportional Print Program starts on page 14 and ends up on 13.

FOR Your information, modem users for local area BBSs, 8,N,1 is the setup for both TCCS and BUBBS. Phone numbers and times are located in this issue.

NOTICE to all local area SINCUS members, July is dues due month, dues are still $8 a year, if you can't pay in person, mail it in to above address, and stay on the mailing list. We need you, your support and your input, re-up in July!

----------Secretary's Notes----------

May Meet-final results are in and announced for the election of officers for the year 1987-1988. As there was only one slate of candidates, not many were holding their breath on this one. So here are the offical results:

President--------John Sims
Vice President--Dave Schoenwetter
Treasurer--------George Penney
Secretary--------Paul Hill
Trustees---------Don Lamen
Wes Brzozowski
William Tilley

Now that John is retiring from ibm, he'll have up to 24 hours a day to devote to his sinclair. Have a Happy, Best of luck and Health to the newest retiree!!

June Meet-Wes demoed his Proportional Printing Program and went in details on how and why he developed such. His article and program listing starts on page 11. Note printing error notice at top of this page.

And just when we thought we'd seen it all, 32 columns, 64 columns and now proportional print, with 32 plus columns, I showed the program we got from Richard Hurd, "Dragon's Companion" which uses 85 columns. Yup, I counted them, and I noticed a couple other believers after they counted too!! If you use a TV for a video output, 85 columns will be a touch hard to read. But with my little Zenith mono monitor the letters are readable. After this demo, a tape received from Joan Kealy of El Paso, Texas was shown. Joan has collected info, data, tips and tidbits of handy dandy ideas for programming, publications, user groups and anything else the TS2068 world touches on. We will include this in our tape library to spread the idea around. If you see this interesting program, and wish to contribute more ideas and helpful hints send Joan your efforts. Her address is on the tape.

Have a Happy, Safe and Healthy Fourth of July on this year of the 200th birthday of the Constitution.
On July 1, Have a Safe, Happy and Healthy Dominion Day. It is the 120th birthday of Canada's proclamation of the Dominion.

July 15 -Wednesday-7pm -next meet
-Vestal Library-DUES DUE-
August 19 -Wednesday -7pm-end of summer meet (already!)
Come on down and demo what you been into all winter-see what's up!!

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New, News, Views and Reviews.....by Paul Hill

NEW: From member Richard Hurd, Warrenton, Oregon, an adoptation of the 85 character print driver software in the TS Technical Manual. A program demoing the capabilities of this, the "Dragon's Companion" was also adapted by Richard. This is on a local BBS called BUBBS-607-693-3359, the board is on 24 HOURS A DAY 7 DAYS A WEEK. Look for "DCT85.BAS" and "DCT85.BYT" in the Timex file section. The basic download is about 12 minutes, and Xmodem is used. John Colonna downloaded it and reports it works, and it is amazing! A very big thank you to Richard for all the work and for letting us share it. I hope before the snow flies, we can get a tape back to you with a whole bunch of goodies on it!

NEWS:LARKEN Electronics, RR #2, Navan, Ontario, Canada K4B 1H9 New products for sale...LKDOS Extended Basic Cartridge ($65 US)fully Spectrum compatiable, plugs in the cartridge port but shadows an area of the Sinclair ROM and takes over control when its commands are used. Other cartridges as the QS-64 or Spectrum emulators can be used with a modification. The LK-EXBC uses its own 8K ROM and 8K RAM. It will support 1 to 4 floppies as well as the soon to be released 256K RAMDISK

NEW: 2068/SPEC Disk Interface-double density Interface can put 400K on a DS 5.25" drive. NMI save button and a Kempston compatiable joystick port-($60.00 US)Both the LKDOS and the 2068/SPEC controller for $115.00.

ZX81-2068 Disk Controller board is a single density disk controller for the 2068-ZX81 that can put 160K on a DS 5.25" drive. Can control 2 drives.($99.00 US)

256K RAM DISK should be available in the spring of 1987-which one might note is rapidly drawing to a close! cost is estimated at $40-50 without the 8 256K chips. You also need the above LKDOS EXBC cartridge.

Write for info, shipping costs $5 per order(?) If you order the same from RMG, 1419 1/2 7th Street, Oregon City, OR 97045 add $3 for Shipping. All the above data from CCATS-*Plotter* May 1987.

REVIEWS: From Ian Robertson, SincBits, Apr/May 87 *SINC-LINK*- "...Larry Kenny of LARKEN ELECTRONICS has done it again! He has produced a disk interface cartridge, that plugs into the cartridge port, which turns your RAMEX interface into a LARKEN interface. And it works! It comes with the DOS on a 2764 Eprom and the FORMAT software on tape. The FORMAT programme is loaded into the computer and after configuring it to suit your (up to 4) drive system, it loads itself to disk. I have tried it on both SSDD 3" and 5 1/4" DSQD drives, without a problem. The LARKEN extended basic commands also work on my RAMEX hybrid. Now for the interesting part - the cartridge does not have to be removed from the cartridge port when the RAMEX DOS is used AND by switching off the RAMEX DOS eprom, the RAMEX does not have to be modified in any way."

At the Fest, Tom Simon, The CUYAHOGA VALLEY SOFTWARE WORKS, 615 School Ave., Cuyahoga Falls, OH 44221 was demonstrating their latest version of SPDOS for the Oliger Disc interface. If any JLO Users are interested in using a different DOS, this is the one. It comes on two disks, one to boot the JLO/SPDOS system and the other has the SPDOS software. The 18 page Manual is easy to read and is self explanatory.

VIEWS: On the 1987 ComputerFest in Indianapolis-from Rod Gowen, of RMG, and *CCATS Plotter* (note addess above)," I can honestly say that I really enjoyed the whole weekend. Other than the fact that I got only about 10 hours sleep in 4 days, it was a super affair!...over 47 dealers and user groups having tables, there were walkways about 5 feet wide and with an estimated 1100 people there on Saturday...there was barely room to turn around...for Sundays' crowd. At 9am the doors again opened up and we must have had an additional 200-300 people who had not been there on Saturday!...I noticed that a lot (?) , I should say most of the dealers were already packing up by 2pm!...By 4pm there was NO ONE LEFT in our exhibit room other than my wife and myself!...the SMUG user group had made over 27 hours of video tape.(NOTE) Tape of 2nd Fest available from SMUG, PO Box 101, Butler, WI 53007. Send for data on costs.

FROM Ian Robertson, "The second MIDWEST T/S COMPUTER FEST, in Indianapolis, IN, was an unqualified success, both from a vendor and a spectator (visitor) viewpoint....My cup runneth over and my wallet runneth out of cash - what temptation!...Of course I attended all the hardware oriented seminars and was impressed by their content."

From SMUG *Bytes*, Bill Heberlein, May 87," Well it's over. The 2nd Fest is now history and as unbelieveable as it might seem this one was better than last year. The show space was larger and there were more seminars. One new item, and I hope it will be a regular fixture at the show was the SWAP SHOP.....The seminars were very good and very diversified. Here are a few titles: Machine Code for the ZX81/TS1000: Computer Widowhood: Desktop Publishing: The FORTH Language. Each of the seminars were well attended and they were interesting."

From Frank Davis, *Indiana Sinclair-Timex Users Group*, Host/Sponsor of the 87 TS ComputerFest, "...*CTW Magazine*, 1704 Drive Birmingham, AL 35235 (205) 854-0271,...have taken over *TS Horizons* and will be finishing out the subscriptions of all who had been awaiting their next issue of *TS Horizons*."

Continued on page 15

THE PC8300; A CLONE OF THE T/S1000

Part 2 AND THE AUTHOR LEARNS MORE.

I had opted to remove the MH9013 transistor and I had purchased a solder sucker at Radio Shack and I removed the transistor that I thought was good and checked it on the transistor checker and found it was NPN. Digging out my stock of spare parts (my wife thinks that I have a junk yard in the basement) I found a stock of 2N2222A transistors, a couple hundred and I selected several with adequate lengths and checked them and found one dead and pitched it and the others semed to be of the same level as the MH9013. A pin vise and a 1/32 drill followed by a drill of 0.039 diameter cleaned the solder out of the holes so the transistor leads went in easily and I carefully soldered the connections. With the chips still out I powered up and the LED power on indicator came on and no smoke. I put the chips in and with a piece of cardboard to insulate the bottom of the keyboard I powered up and got a series of beeps but nothing the screen and then silence. Subsequent handling flexed the keyboard connector cable enough that the wires parted at the circuit boards. I shelved the unit for later repair.

The second PC8300 that I ordered March 9th arrived Friday the 20th and I got lecture number XXX (not the first time obviously) from my little helpmate about the fact that I was getting far too much stuff (computers) and spending far too much time in the basement playing with said too much stuff. How can one that stands an even 60 inches be so aggressive? I saw that I was on thin ice so I waited till after supper was over and I had helped with the dishes and finished packing my lunch to take to work the next day before I dissappeared into the basement.

Yep, I got the 2nd computer and the 16K rampak however while I was getting the PC8300 out of the foam box I turned it over and got a tinny rattle and I felt something sliding inside the computer. I considered that if I sent it back I would be three weeks to a month before I get a replacement if I got one. So I carefully tilted the computer and decided that the rattle wasn't a loose chip and was bigger that any other component that I could think of so I carefully opened the computer up and found the friction fit cover of the video modulator had came off and was rattling around. I pressed it into place and saw that the chips appeared to be firmly in their sockets and closed up the computer and carefully set it up and turned on the power.

I heard two beeps and the screen came to life in inverse video with a statement at the top left side that said READY and a flashing cursor in the bottom left corner. And each key stroke gave an audible beep that was slightly different toned for each key. I had an incomplete statement entered when I pressed the enter key and got a low pitched "growl" and the computer gave a sort of syntax error. But the manual was still in Chinese with maybe 1/4 to 1/5 in English and lots of puzzles to sort out. However it is so similiar to the T/S1000 that you could almost use the PC8300 without an instruction manual except for the twirks that are different.

When the screen came to life it was with a black screen with white characters and it came to life on channel 3 and so far I have seen no way to change that if you wanted to. Also the signal is much stronger than from the T/S1000 and you can turn the brightness and contrast controls down. The screen seems more stable. The TV cable that came with it had a different connector on the TV end and there was no TV/computer switch box included with the computer but I used the Timex switch box aand cable since it was already in place.

I typed in some REM statements had to spell out REM and SAVE'd the program and LOADed the program back in. On SAVEing there is no 5 second blank screen it goes into the SAVE screen display and gives an OK line NO. after finishing. I typed in NEW one letter at a time and then LOAD and loaded the program back in. I have a 50 Microampere meter and a speaker across the LOAD line from the taperecorder and I can see the level of the signal and hear the signal while LOADing a program. Instead of a 5 second silence there is a shrill whistle and the whistle ends and the program begins immediately. I thought something was wrong and I aborted the LOAD but the LOAD display was still on the screen so I activiated the tape player and without the full five seconds of the whistle the program LOADed OK.

I knew from checking the signal names on the interface connector that the T/S1000 and the PC8300 were the same so I turned off the power and plugged in the T/S2040 printer and tried it. I had no trouble LLISTimg the program that I typed in and later I had the LPRINT command working except that you have to spell them out. Other accessories will possibly work if the change in the character set doesn't confuse the computer.

I have LOADed in a couple of T/S1000 programs and one game worked or seemed to except for the character for the vehicle showed up for a letter. I haven't tried to debug the program. I tried to load the PC8300 program on tape into the T/S1500 but it defaulted but then the T/S1500 has always been fussy about the load level. And the tape has a strong signal on it. And the 5 second whistle might confuse the computer. A friend, Mike in Muscatine, thinks that the five second whistle is a signal for the PC8300 to recognize its own program and if it doesn't have the whistle then it will translate the program from T/S1000 to almost PC8300 Basic. I will have to experiment and try to find out.

Last night a friend stopped in and we played with the PC8300 a little and he showed me the way to run off the character set. And when he saw ink, border, paper he thought that it was a color computer and wanted to see the manual where it listed the character set. Comparing the character set as displayed by the computer with the manual the computer displays ink, paper, border while the manual states that those addresses are not used. See the character set of the PC8300 compared with the T/s1500.

Above one of the keys is the command "LINE NO." and I hadn't figured out yet and Gary suggested that I press shift and that key and at the bottom appeared a number and we tried it a couple of times and what it is is an automatic line numbering

that increments by 10 and would help to avoid line number problems.

Reset does not work like I thought it would, in fact I don't see a real use for it. I've had the computer go off into the never-never land and there was no way I could get it back without turning off the power. One possible small use is to use it to clear the bottom two lines and it does that without loosing what is in memory.

More about the manual. I did not find a Manufacturer's name or the name of the printer and furthur I did not find any copyright notice nor a part number or book number nor an authors name. It does make you wonder and especially since the manual and the character set in the ROM are not identical. I feel that the lack of identity is a way around copy rights.

The little program given below will print out on the T/S2040 printer the character set. All key punches have been given. The complete program is as either the printer will print out or as the screen will display it after entering. You might have to enter a line like: FOR S=127 TO 255 to see it all.

```
9000FORS=0TO255       AFTER THE SECOND 5 PRES ENTER.
SHIFTLINE NO. (PRESS TOGETHER)LPRINTCHR$S;"  "; PRESS ENTER
SHIFT LINE NO. (PRESS TOGETHER)NEXTS PRESS ENTER
```

```
9000 FOR S=0 TO 255
9010 LPRINT CHR$ S;"  ";
9020 NEXT S
```

You will have noticed that there is no need to put in spaces when you spell out what is a single stroke entry on the T/S1000. When you enter the line the computer adds the spaces as needed and if it doesn't it is easy to edit.

Bob Hoover did state it right: postage does cost money and when I have wrote asking for help or some such I have used a SASE. My wife is quite monetary minded and eyes the letters I write and all is fine as long as the household stamps aren't used for my computer hobby. I will try to answer all letters; however I am into a lot of ten hour days at my work place plus a lot of Saturdays and that does eat into a lot of my time. However, after December I will be another ROC like Oscar.

Next time I will try to work from the XZ81, the T/S1000 and the T/S1500 manuals and the PC8300 manual, I will try to find the areas where the computers differ and give examples.

Donald S. Lambert
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Cedar Rapids, Iowa 52404

TIMEX/SINCLAIR BBS LIST
(APRIL 1987)

BULLETIN BOARD	NUMBER	NOTES	RATES
TIME-=<X>=-CHANGE BBS	(213) 329-3922	8 H D @	17/15
OMNI-NET BBS.	(718) 837-2881	7 M D	16/14
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PUBLIC DOMAIN SOFTWARE EXCHANGE	(415) 571-6911	8 M D @	17/15

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** NOTES **.

- 7 PARAMETERS = 7/E/1
- 8 PARAMETERS = 8/N/1
- D TIMEX FILE TRANSFERS
- L LOW USAGE TIMEX MESSAGE BASE
- M MEDIUM USAGE TIMEX MESSAGE BASE
- H HIGH USAGE TIMEX MESSAGE BASE
- $ SUBSCRIPTION REQUIRED
- % OPERATION DURING EVENINGS
- @ ACCESSIBLE VIA PC PURSUIT
- ? DOWN UNTIL FURTHER NOTICE

RATES ARE THE CHARGES FROM CHICAGO FOR THE FIRST MINUTE & EACH FOLLOWING MINUTE AFTER 11:00 PM.

****

```
                ;Handle a "cursor right"
                ; Identical to Spectrum at 100C

0B72 7E           LD   A,(HL)        ;Get character
0B73 FE0D         CP   0D            ;ENTER character
0B75 C8           RET  Z             ;If already at end of line

0B76 23           INC  HL            ;Update cursor

0B77 22585C  L0B77 LD   (K_CUR),HL   ;Redo K_CUR
0B7A C9           RET

                ;Handle a "DELETE"
                ; Identical to Spectrum at 1015

0B7B CD970B       CALL 0B97          ;Decreasnt cursor, unless at start
0B7E 010100       LD   BC,0001       ;One space
0B81 C33017       JP   1730          ;Reclaim the space

                ;Ignore the next 2 codes
                ; Identical to Spectrum at 101E

0B84 CDCF11       CALL 11CF          ;Wait for a key
0B87 CDCF11       CALL 11CF          ;Again

                ;Handle an "ENTER"
                ; Identical to Spectrum at 1024

0B8A E1      L0B8A POP  HL           ;Trash the RETurn to 0ABE
0B8B E1           POP  HL           ;Trash the RETurn to 0BE3

0B8C E1      L0B8C POP  HL
0B8D 223D5C       LD   (ERR_SP),HL  ;Restore old value
0B90 FDCB007E     BIT  7,(IY+0)     ;ERR_NR
0B94 C0           RET  NZ           ;If no errors

0B95 F9           LD   SP,HL        ;Otherwise, jump to error routine
0B96 C9           RET               ;Effective JP

                ;Used in deleting.  Moves the cursor 1 space left, unless we're
                ; already at the beginning of a line
                ; Identical to Spectrum at 1031

0B97 37           SCF
0B98 CDFB0C       CALL 0CFB         ;Put value in DE. E_LINE for editing,
                                    ; or WORKSP for INPUT mode
0B9B ED52         SBC  HL,DE
0B9D 19           ADD  HL,DE
0B9E 23           INC  HL
0B9F C1           POP  BC           ;Trash return address
0BA0 D8           RET  C            ;So RETurn is to 0ABE

0BA1 C5           PUSH BC           ;Restore RETurn address
0BA2 44           LD   B,H
0BA3 4D           LD   C,L          ;Cursor address

                ;This keeps control characters & their follow up bytes together
                ; during deletion
0BA4 62      L0BA4 LD   H,D
0BA5 6B           LD   L,E
0BA6 23           INC  HL
0BA7 1A           LD   A,(DE)
0BA8 E6F0         AND  F0
0BAA FE10         CP   10
0BAC 2009         JR   NZ,L0BB7

0BAE 23           INC  HL
0BAF 1A           LD   A,(DE)
0BB0 D617         SUB  17
0BB2 CE00         ADC  A,00
0BB4 2001         JR   NZ,L0BB7

0BB6 23           INC  HL

0BB7 A7      L0BB7 AND  A
0BB8 ED42         SBC  HL,BC
0BBA 09           ADD  HL,BC
0BBB EB           EX   DE,HL
0BBC 38E6         JR   C,L0BA4

0BBE C9           RET
```

```
                ;Handle a "cursor up"
                ; Identical to Spectrum at 1059

0BBF FDCB376E     BIT  5,(IY+55)    ;FLAG_X
0BC3 C0           RET  NZ           ;If in INPUT mode

0BC4 2A495C       LD   HL,(E_PPC)   ;Line number
0BC7 CDD616       CALL 16D6         ;Get its address
0BCA EB           EX   DE,HL        ;Point to previous line
0BCB CD2413       CALL 1324         ;Get line #
0BCE 214A5C       LD   HL,5C4A      ;E_PPC - hi byte
0BD1 CD4816       CALL 1648         ;Store the number

0BD4 CDE114  L0BD4 CALL 14E1        ;Do an automatic listing
0BD7 3E00         LD   A,00         ;Stream 0 for channel "K"
0BD9 C33012       JP   1230         ;Make it current channel

                ;For symbol shift & graphics
                ; Identical to Spectrum at 1076

0BDC FDCB377E     BIT  7,(IY+55)    ;FLAG_X - for INPUT ... LINE ...
0BE0 28A8         JR   Z,L0B8A      ;If not

0BE2 C3E70A       JP   0AE7         ;If we are

                ;Handle an editing error and make the TS2068 hook at the
                ; errant programmer
                ; Identical to Spectrum at 107F

0BE5 FBCB3046     BIT  4,(IY+48)    ;FLAGS2
0BE9 28A1         JR   Z,L0B8C      ;If not using channel "K"

0BEB FD3600FF     LD   (IY+0),FF    ;ERR_NR - no error
0BEF 1600         LD   D,00
0BF1 FD5EFE       LD   E,(IY-2)     ;RASP
0BF4 21901A       LD   HL,1A90      ;Pitch
0BF7 CDF303       CALL 03F3         ;BEEP the raspberry
0BFA C3B60A       JP   0AB6         ;Back to the editor

                ;Clear edit area or workspace (depending on mode)
                ; Identical to Spectrum at 1097

0BFD E3           PUSH HL
0BFE CDF60C       CALL 0CF6         ;Point DE & HL to proper spaces
0C01 2B           DEC  HL
0C02 CD4D17       CALL 174D         ;Close up the space
0C05 225B5C       LD   (K_CUR),HL
0C08 FD360700     LD   (IY+7),00    ;MODE - K mode
0C0C E1           POP  HL
0C0D C9           RET

                ;Input a key & handle mode switching & caps lock
                ; Identical to Spectrum at 10AB

0C0E FDCB025E     BIT  3,(IY+2)     ;TV_FLAG
0C12 C4B30C       CALL NZ,0CB3      ;Copy line to lower screen
0C15 A7           AND  A            ;CY=0
0C16 FDCB016E     BIT  5,(IY+1)     ;FLAGS
0C1A C8           RET  Z            ;If no key was pressed

0C1B 3A085C       LD   A,(LAST_K)
0C1E FDCB01AE     RES  5,(IY+1)     ;FLAGS
0C22 F5           PUSH AF
0C23 FDCB026E     BIT  5,(IY+2)     ;TV_FLAG
0C27 C4A908       CALL NZ,08A9      ;Clear lower screen
0C2A F1           POP  AF
0C2B FE20         CP   20
0C2D 3052         JR   NC,L0C81     ;Printable character or token

0C2F FE10         CP   10
0C31 3020         JR   NC,L0C53     ;Some control codes

0C33 FE06         CP   06
0C35 300A         JR   NC,L0C41     ;Mode & CAPS LOCK codes
```

```
                ;FLASH, BRIGHT & INVERSE
0C37  47        LD   B,A
0C38  E601      AND  01
0C3A  4F        LD   C,A
0C3B  78        LD   A,B
0C3C  1F        RRA
0C3D  C612      ADD  A,12
0C3F  182A      JR   L0C6B

                ;Mode & CAPS LOCK codes
0C41  2009      L0C41 JR  NZ,L0C4C

0C43  216A5C    LD   HL,FLAGS2
0C46  3E08      LD   A,08
0C48  AE        XOR  (HL)
0C49  77        LD   (HL),A
0C4A  180E      JR   L0C5A

0C4C  FE0E      L0C4C CP  0E
0C4E  D8        RET  C

0C4F  D60D      SUB  0D
0C51  21415C    LD   HL,MODE
0C54  BE        CP   (HL)
0C55  77        LD   (HL),A
0C56  2002      JR   NZ,L0C5A

0C58  3600      LD   (HL),00
0C5A  FDCB02DE L0C5A SET  3,(IY+2) ;TV_FLAG
0C5E  BF        CP   A
0C5F  C9        RET

                ;The rest of the control codes
0C60  47        L0C60 LD  B,A
0C61  E607      AND  07
0C63  4F        LD   C,A
0C64  3E10      LD   A,10
0C66  CB58      BIT  3,B
0C68  2001      JR   NZ,L0C6B

0C6A  3C        INC  A

0C6B  FD71B3    L0C6B LD  (IY-45),C   ;K_DATA
0C6E  11730C    LD   DE,0C73
0C71  1806      JR   L0C79

0C73  3A0D5C    LD   A,(K_DATA)
0C76  110E0C    LD   DE,0C0E      ;Jump address

0C79  2A4F5C    L0C79 LD  HL,(CHANS)
0C7C  23        INC  HL
0C7D  23        INC  HL
0C7E  73        LD   (HL),E
0C7F  23        INC  HL
0C80  72        LD   (HL),D

0C81  37        L0C81 SCF
0C82  C9        RET

                ;Copy line in INPUT or EDIT area into edit line on screen
                ;  Identical to Spectrum at 111D

0C83  CD0808    CALL 0808         ;Use permanent colors
0C86  FDCB029E  RES  3,(IY+2)     ;TV_FLAG
0C8A  FDCB02AE  RES  5,(IY+2)     ;TV_FLAG
0C8E  2A8A5C    LD   HL,(SPOSNL)
0C91  E5        PUSH HL
0C92  2A3D5C    LD   HL,(ERR_SP)
0C95  E5        PUSH HL
0C96  21CD0C    LD   HL,0CCD      ;A JP address
0C99  E5        PUSH HL
0C9A  ED733D5C  LD   (ERR_SP),SP
0C9E  2A825C    LD   HL,(ECHO_E)
0CA1  E5        PUSH HL
0CA2  37        SCF
0CA3  CDFB0C    CALL 0CFB         ;Point HL to start & DE to end of space
0CA6  EB        EX   DE,HL
0CA7  CDC915    CALL 15C9         ;Print the line
0CAA  EB        EX   DE,HL
0CAB  CD2D16    CALL 162D         ;Print the cursor

0CAE  2A8A5C    LD   HL,(SPOSNL)
0CB1  E3        EX   (SP),HL
0CB2  EB        EX   DE,HL
0CB3  CD0808    CALL 0808         ;Use permanent colors

0CB6  3A8B5C    L0CB6 LD  A,(SPOSNL + 1) ;hi-byte - line number
0CB9  92        SUB  D
0CBA  3826      JR   C,L0CE2

0CBC  2006      JR   NZ,L0CC4

0CBE  7B        LD   A,E
0CBF  FD9650    SUB  (IY+80)      ;S_POSN - lo byte - column
0CC2  301E      JR   NC,L0CE2

0CC4  3E20      L0CC4 LD  A,20    ;An ASCII space
0CC6  D5        PUSH DE
0CC7  CD0005    CALL 0500         ;Print the space
0CCA  D1        POP  DE
0CCB  18E9      JR   L0CB6

                ;Handle edit errors
0CCD  1600      LD   D,00
0CCF  FD5EFE    LD   E,(IY-2)     ;RASP
0CD2  21901A    LD   HL,1A90      ;Pitch
0CD5  CDF303    CALL 03F3         ;BEEP routine
0CD8  FD3600FF  LD   (IY+0),FF    ;ERR_NR - cancel any error
0CDC  ED5B8A5C  LD   DE,(SPOSNL)
0CE0  1802      JR   L0CE4

                ;Normal exit
0CE2  D1        L0CE2 POP  DE
0CE3  E1        POP  HL

                ;Error exit from here
0CE4  E1        L0CE4 POP  HL
0CE5  223D5C    LD   (ERR_SP),HL
0CE8  C1        POP  BC
0CE9  D5        PUSH DE
0CEA  CD1409    CALL 0914         ;Save pointers
0CED  E1        POP  HL
0CEE  22825C    LD   (ECHO_E),HL
0CF1  FD362600  LD   (IY+38),00
0CF5  C9        RET

                ;Set HL=address of first byte, DE=last byte of work or edit spa
                ;  Identical to Spectrum at 1190

0CF6  2A615C    LD   HL,(WORKSP)
0CF9  2B        DEC  HL
0CFA  A7        AND  A

0CFB  ED5B595C  LD   DE,(E_LINE)
0CFF  FDCB376E  BIT  5,(IY+55)
0D03  C8        RET  Z

0D04  ED5B615C  LD   DE,(WORKSP)
0D08  D8        RET  C

0D09  2A635C    LD   HL,(STKBOT)
0D0C  C9        RET

                ;Remove the extra floating point garbage from a BASIC line
                ;  Identical to Spectrum at 11A7

0D0D  7E        L0D0D LD  A,(HL)
0D0E  FE0E      CP   0E           ;Number slug character
0D10  010600    LD   BC,0006      ;5 bytes for number + 1 for slug
0D13  CC5017    CALL Z,1750       ;Reclaim the space
0D16  7E        LD   A,(HL)
0D17  23        INC  HL
0D18  FE0D      CP   0D           ;ENTER character
0D1A  20F1      JR   NZ,L0D0D     ;Loop again if not at end of line

0D1C  C9        RET
```

```
                ;§§§§§§§§§§§§§§§§§§§§§§§§§§§§§§§§
                ;§ The Top Level Executive Portion §
                ;§§§§§§§§§§§§§§§§§§§§§§§§§§§§§§§§

                ;NEW handler
                ;  Similar to Spectrum at 11B7

0D1D  F3          DI
0D1E  3EFF        LD   A,0FF          ;NEW - not power up
0D20  ED5B825C    LD   DE,(RAMTOP)
0D24  D9          EXX
0D25  ED4B845C    LD   BC,(P_RAMT)
0D29  ED5B385C    LD   DE,(RASP)
0D2D  2A7B5C      LD   HL,(UDG)
0D30  D9          EXX                 ;Put 'em where NEW can't get 'em

              ;Enter here at Power Up
0D31  47          LD   B,A            ;Save the NEW/Power Up flag
0D32  3E07        LD   A,007
0D34  D3FE        OUT  (0FE),A        ;White border
0D36  3E3F        LD   A,03F      ;So Refresh cycles "point" to ROM
0D38  ED47        LD   I,A        ; (it's useful when debugging the hardware)
0D3A  00          NOP
0D3B  00          NOP                 ;These cause extra Hi cycles (hence
0D3C  00          NOP                 ; extra refresh cycles) before RAM is
0D3D  00          NOP                 ; used at power up. This is a Z-80
0D3E  00          NOP                 ; hardware requirement.
0D3F  00          NOP
              ;The RAM check
0D40  62          LD   H,D
0D41  6B          LD   L,E
0D42  3602    L0D42 LD   (HL),002
0D44  2B          DEC  HL
0D45  BC          CP   H
0D46  20FA        JR   NZ,L0D42

0D48  A7      L0D48 AND  A
0D49  ED52        SBC  HL,DE
0D4B  19          ADD  HL,DE
0D4C  23          INC  HL
0D4D  3006        JR   NC,L0D55

0D4F  35          DEC  (HL)
0D50  2803        JR   Z,L0D55

0D52  35          DEC  (HL)
0D53  28F3        JR   Z,L0D48

0D55  2B      L0D55 DEC  HL

              ;Restore system variables that NEW mustn't wipe out
0D56  D9          EXX
0D57  ED43845C    LD   (P_RAMT),BC
0D5B  ED53385C    LD   (RASP),DE
0D5F  227B5C      LD   (UDG),HL
0D62  D9          EXX
0D63  04          INC  B
0D64  2819        JR   Z,L0D7F        ;If doing a NEW

              ;Here if Power On or RESET
0D66  22B45C      LD   (P_RAMT),HL
0D69  11AF3E      LD   DE,03EAF
0D6C  01A800      LD   BC,000A8
0D6F  EB          EX   DE,HL
0D70  EDB8        LDDR
0D72  EB          EX   DE,HL
0D73  23          INC  HL
0D74  227B5C      LD   (UDG),HL
0D77  2B          DEC  HL
0D78  014000      LD   BC,00040
0D7B  ED43385C    LD   (RASP),BC

              ;Jump ahead here when doing a NEW
0D7F  22825C  L0D7F LD   (RAMTOP),HL
0D82  21003C      LD   HL,03C00
0D85  22365C      LD   (CHARS),HL
0D88  210062      LD   HL,06200       ;The first location above the stack
0D8B  22C05C      LD   (NSTBOT),HL
0D8E  2B          DEC  HL
0D8F  363E        LD   (HL),03E       ;The last stack entry is 3E00.  This
0D91  2B          DEC  HL             ; represents an "impossible" line
0D92  F9          LD   SP,HL          ; number.

0D93  2B          DEC  HL
0D94  2B          DEC  HL
0D95  223B5C      LD   (ERR_SP),HL
0D98  ED56        IM   1
0D9A  00          NOP                 ;Spectrum has an EI around here
0D9B  FD213A5C    LD   IY,ERR_NR

              ;Set up the initial Channels
0D9F  214068      LD   HL,06840
0DA2  224F5C      LD   (CHANS),HL
0DA5  11AA11      LD   DE,011AA
0DA8  011500      LD   BC,00015
0DAB  EB          EX   DE,HL
0DAC  EDB0        LDIR
0DAE  EB          EX   DE,HL

              ;Some of the system variable initialization from the Spectrum
              ; removed from here, & put in the EXROM. This would allow
              ; expansion banks to add channels without having to do a lot
              ; mucking about with the memory layout
0DAF  3E38        LD   A,038
0DB1  32B85C      LD   (ATTR_P),A
0DB4  32BF5C      LD   (ATTR_T),A
0DB7  32AB5C      LD   (BORDCR),A
0DBA  212305      LD   HL,00523
0DBD  22095C      LD   (REPDEL),HL
0DC0  FD35C6      DEC  (IY-58)        ;K_STATE gets 0FF
0DC3  FD35CA      DEC  (IY-54)        ;K_STATE + 4 gets 0FF

              ;Set up the initial streams
0DC6  21C111      LD   HL,011C1
0DC9  11105C      LD   DE,STRMS
0DCC  010E00      LD   BC,0000E
0DCF  EDB0        LDIR

              ;Standard video mode (TS2068 only)
0DD1  AF          XOR  A
0DD2  D3FF        OUT  (0FF),A

              ;Clear printer buffer
0DD4  FDCB01CE    SET  1,(IY+1)       ;FLAGS - printer in use
0DD8  CD350A      CALL 00A35          ;Clear print buffer

0DDB  FD363102    LD   (IY+49),002    ;DF_SZ - Edit line = 2 lines
0DDF  CDA608      CALL 008A6          ;Clear screen
0DE2  AF          XOR  A
0DE3  FDCB01E6    SET  4,(IY+1)       ;FLAGS (TS2068 only)

              ;Print copyright messages
0DE7  111711      LD   DE,01117       ;Address of copyright message
0DEA  CD3F07      CALL 073F           ;Print it
0DED  FDCB02EE    SET  5,(IY+2)       ;TV_FLAG - Edit line to be cleared

              ;Move the code that will copy RAM resident code from EXROM to
              ; We can't copy EXROM directly from Home ROM, because we have
              ; switch the ROM out to do so.
0DF1  2103E0      LD   HL,0E003
0DF4  110060      LD   DE,06000
0DF7  011B00      LD   BC,0001B
0DFA  EDB0        LDIR

              ;This causes the code to be copied
0DFC  CD0060      CALL 06000

              ;Set up BS_SP, the Bank Switching stack pointer
0DFF  21CE65      LD   HL,065CE
0E02  22CE65      LD   (065CE),HL

              ;This effectively does a JP (not CALL) to 10BE7 (EXROM addres
              ; This checks for additional memory and finishes initializing
              ; system variables. In the absence of activity from additiona
              ; banks, control will then be passed to 0E2F, in the Main Loc
0E05  21E708      LD   HL,008E7
0E08  CD1540      CALL 04015          ;GOTO_EXT - goto 10BE7
```

```
                ;This code is copied to location 6000. It in turn copies the RAM
                ; Resident code from EXROM to 4200
                ;  This code has no Spectrum counterpart

0E08  3E01          LD   A,01
0E0A  D3F4          OUT  (0F4),A
0E0C  DBFF          IN   A,(0FF)
0E0E  CBFF          SET  7,A
0E10  D3FF          OUT  (0FF),A       ;EXROM is switched in, at this point
0E12  210010        LD   HL,01000
0E15  110062        LD   DE,06200
0E18  013006        LD   BC,00630
0E1B  EDB0          LDIR               ;Code is copied, here
0E1D  CBBF          RES  7,A
0E1F  D3FF          OUT  (0FF),A
0E21  AF            XOR  A
0E22  D3F4          OUT  (0F4),A       ;Home ROM is switched back in, now
0E24  C9            RET

                ;The Main Execution Loop. Reads & handles BASIC lines and
                ; commands that are typed into the edit line

0E25  FD363102 L0E25 LD   (IY+49),02   ;DF_SZ
0E29  CDE114         CALL 14E1         ;Do an auto listing

                ;Enter here from initialization or NEW
0E2C  CD3F13         CALL 133F         ;Empty the workspaces

0E2F  3E00     L0E2F LD   A,00
0E31  CD3012         CALL 1230         ;OPEN "K" channel
0E34  CD820A         CALL 0A82         ;Line input
0E37  CD271A         CALL 1A27         ;Syntax check
0E3A  FDCB007E       BIT  7,(IY+0)     ;ERR_NR
0E3E  2012           JR   NZ,L0E52     ;Jump if syntax is OK

0E40  FDCB3066       BIT  4,(IY+48)    ;FLAGS2
0E44  2844           JR   Z,L0E8A      ;If not using channel K

0E46  2A595C         LD   HL,(E_LINE)  ;Point to start of bad line
0E49  CD0D0D         CALL 0D0D         ;Wipe the floating point trash
0E4C  FD3600FF       LD   (IY+0),0FF   ;Wipe the error code
0E50  18DD           JR   L0E2F        ;...and give the programmer another try

                ;Here if syntax OK. Now check for a line number
0E52  2A595C   L0E52 LD   HL,(E_LINE)  ;Start of line
0E55  22DD5C         LD   (CH_ADD),HL
0E58  CD6817         CALL 1768         ;Get line # into BC, if it exists
0E5B  78             LD   A,B
0E5C  B1             OR   C            ;If a legal one exists, then jump
0E5D  C25811         JP   NZ,1158      ; and add it to the program

0E60  DF             RST  18           ;Check first character
0E61  FE0D           CP   0D
0E63  28C0           JR   Z,L0E25      ;Jump if it's only an ENTER

                ;Here if it's a command (no line number)
0E65  FDCB3046       BIT  0,(IY+48) ;FLAGS2
0E69  C4EA08         CALL NZ,08EA      ;Clear screen, if appropriate
0E6C  CDA908         CALL 08A9         ;Always clear edit line
0E6F  3E19           LD   A,19
0E71  FD964F         SUB  (IY+79)      ;S_POSN - hi byte
0E74  32BC5C         LD   (SCR_CT),A   ;Set up scroll count
0E77  FDCB01FE       SET  7,(IY+1)     ;FLAGS - Signal "line execute"
0E7B  FD3600FF       LD   (IY+0),0FF   ;ERR_NR - No error
0E7F  FD360A01       LD   (IY+10),01   ;NSPPC - run the first statement
0E83  FD367C00       LD   (IY+124),00  ;ERRLN - ON ERROR GOTO 0
0E87  CD881A         CALL 1A88         ;RUN the line

                ;The address of this instruction is pointed to by ERR_SP
0E8A  76       L0E8A HALT

                ;A lengthy addition for the TS2068
0E8B  FD7E00         LD   A,(IY+0)     ;ERR_NR
0E8E  FEFF           CP   0FF
0E90  2833           JR   Z,L0EC5      ;If ERR_NR shows no error

0E92  FDCB7D7E       BIT  7,(IY+125)   ;ERR_LN - hi byte
0E96  2027           JR   Z,L0EBF
```

```
0E98  FDCB7DF6       SET  6,(IY+125)   ;ERR_LN - hi byte
0E9C  3C             INC  A            ;Produce "proper" error code
0E9D  32B85C         LD   (ERRT),A
0EA0  FD3600FF       LD   (IY+0),0FF   ;Wipe the error
0EA4  2A455C         LD   HL,(PPC)
0EA7  22B85C         LD   (ERRC),HL    ;Save the line where error occurr
0EAA  3A475C         LD   A,(SUBPPC)
0EAD  32BA5C         LD   (ERRS),A     ; Save statement where error occur
0EB0  2AB65C         LD   HL,(ERRLN)
0EB3  CBBC           RES  7,H          ;
0EB5  CBB4           RES  6,H          ;reset ERR_LN flags
0EB7  22425C         LD   (NEWPPC),HL  ;Line to be jumped to
0EBA  FD360A01       LD   (IY+10),01   ;Jump to statement 1 of the line
0EBE  21B80E         LD   HL,0E8B
0EC1  E5             PUSH HL           ;Preload stack with return to 0E8
0EC2  C3B91A         JP   1AB9         ;Do a "statement return"

                ;Here if no error
0EC5  3E07     L0EC5 LD   A,07
0EC7  D3F5           OUT  (0F5),A
0EC9  3EFF           LD   A,0FF
0ECB  D3F6           OUT  (0F6),A      ;Initialize sound chip
0ECD  FBCB029E       RES  3,(IY+2)     ;TV_FLAG - fix input cursor error

                ;Here's where the Spectrum version resumes
0ED1  FDCB01AE       RES  5,(IY+1)     ;FLAGS - ready for new key
0ED5  FDCB304E       BIT  1,(IY+48)    ;FLAGS2
0ED9  C4230A         CALL NZ,0A23      ;Dump print buffer, if there's in
0EDC  3A3A5C         LD   A,(ERR_NR)
0EDF  3C             INC  A

0EE0  F5             PUSH AF           ;Save "proper" error number

                ;Reset some system variables
0EE1  210000         LD   HL,00000
0EE4  FD7437         LD   (IY+55),H    ;FLAGX
0EE7  FD7426         LD   (IY+38),H    ;X_PTR, high byte
0EEA  22085C         LD   (DEFADD),HL
0EED  210100         LD   HL,00001
0EF0  22165C         LD   (STRMS +6),HL ;Stream 0 gets channel K
0EF3  CD3F13         CALL 133F         ;Empty workspaces
0EF6  FDCB37AE       RES  5,(IY+55)    ;Edit mode
0EFA  CDA908         CALL 08A9         ;Clear edit line
0EFD  FDCB02EE       SET  5,(IY+2)     ;TV_FLAG - for clearing edit li
0F01  F1             POP  AF           ;Error number
0F02  47             LD   B,A
0F03  FE0A           CP   0A
0F05  3802           JR   C,L0F0C      ;Jump for reports 0-9

0F07  C607           ADD  A,07         ;Convert to ASCII letter

0F09  CDEA11   L0F0C CALL 11EA         ;Print error code
0F0C  3E20           LD   A,20
0F0E  D7             RST  10           ;Print a space
0F0F  78             LD   A,B          ;Error number
0F10  11650F         LD   DE,0F65      ;Address of message table
0F13  CD3F07         CALL 073F         ;Print the message
0F16  AF             XOR  A
0F17  111511         LD   DE,1115      ;Address of the " ," string
0F1A  CD3F07         CALL 073F         ;Print it
0F1D  ED4B455C       LD   BC,(PPC)     ;Line number
0F21  CD8817         CALL 1788         ;Print it
0F24  3E3A           LD   A,":"
0F26  D7             RST  10           ;Print it
0F27  FD4E0D         LD   C,(IY+13)    ;SUBPPC + statement number
0F2A  0600           LD   B,00
0F2C  CD8817         CALL 1788         ;Print it
0F2F  CDFD0B         CALL 0BFD         ;Clear edit area
0F32  3A3A5C         LD   A,(ERR_NR)
0F35  3C             INC  A
0F36  281B           JR   Z,L0F53      ;If "error message" is "OK"

0F38  FE09           CP   09
0F3A  2804           JR   Z,L0F40      ;If "error" was a STOP statem

0F3C  FE15           CP   15
0F3E  2003           JR   NZ,L0F43     ;If "error" was a BREAK

0F40  FD340D   L0F40 INC  (IY+13)      ;SUBPPC
```

GETTING THE RIGHT PROPORTIONS

-Wes Brzozowski, SINCUS

Before reading too far into this, go grab a newspaper or some other publication that has print laid out in narrow columns. Count the number of letters and blank spaces on several lines. Chances are, you'll find that each line contains a DIFFERENT number of characters.

This is done with a method called Proportional Printing. It turns out that fat characters like M take take up a whole lot more space than the tiny letter i, so each character is given only as much room as it needs. Not only is this much more pleasing to the eye, it allows a surprising amount of extra text to be squeezed into the same amount of space.

Our TS2068s normally display 32 or 64 (and now 85) columns of text, with each character taking up the same width, no matter what its size. It seems that we should be able to improve this somewhat.

Actually, the job has already been done for us. In the Nov. 1985 issue of *YOUR SPECTRUM*, in the article "All Out of Proportion", such a program is given. Unfortunately, it does have a number of defficiences. I've corrected as many of these as are practical (though thay can still be annoying at times) and presented it here for your use. Note that the Spectrum program and my perversion of it here are radically different in many ways. If you've got the old version, you'll still have to completely retype it for the TS2068. Still, they do function somewhat alike, and you might find the text of that article to be helpful.

For those who have that original article, the main differences are: 1) the code is modified to run on a TS2068, 2) machine code is initially entered through DATA statements, eliminating the need for a hex loader, 3) the character fonts are MUCH improved, and you don't have to type in the pixel patterns for each, because my program derives the patterns from the Timex patterns, already in ROM, 4) the code works as in OVER 0, rather than OVER 1, so if you print over a space that already contains text, you won't get such an awful mess, and 5) the TAB function is also implemented in the proportional mode.

This article contains two programs; type in and RUN the first one. After a long wait, it will SAVE the true proportional printing program to tape. When you reload that one (no waiting required, from here on) you'll be ready to begin.

It starts out with a little demonstration of proportional printing. This redefines the LPRINT command, so it will conflict with your use of a printer. I haven't found this to be any bother in the types of programs I've used it in. Still, if there's sufficient interest, it shouldn't be too hard to produce an add-on program that inserts a "proportional print" channel, and attaches it to an unused stream. This could allow your normal printer to work (in its normal mode) in conjection with proportional printing on the screen. In the mean time, if your printer supports a COPY function, that should work with this program, as is.

In any case, LPRINT now prints to the screen in proportional mode, and PRINT continues to work like it always does, so you can mix BOTH methods in your program at once. However, both maintain their own separate screen locations, so you can easily print to different parts of the screen with each.

For proportional screen positioning, you can use LPRINT AT and LPRINT TAB commands. However, note that the old AT and TAB

functions use screen positions that assume all characters are 8 pixels wide. This would never do for proportional printing, so when you use AT or TAB with LPRINT, you specify the X and Y locations in PIXELS, not in characters. This means you can place your characters anywhere you want on the screen, right down to the pixel level. The BASIC program, from lines 3030 on give a reasonable demonstration of how it works.

The *YOUR SPECTRUM* article also included a font designer program, which is included here, but this is optional. To move the cursor, use the Q, A, O, and P keys. Use M and N to turn a pixel on or off. F keeps the design, D displays a character, U displays the entire character set and S and J save and load the character set. LOAD in a SAVEd character set to the main program with LOAD "" CODE 64208. Once loaded into the proportional print program, you can save the program and fonts together, and never bother with the fonts again.

The proportional printing fonts require one new thing we never worried about before; you have to specify how many pixel wide your character is. To do this, you design your character to touch the right most border of the 8 x 8 character block you're given. Then, in the top row of pixels, you set each pixel that's in a valid column for that character. Thus, if your character is to be five pixels wide, simply set the right most 5 pixels in the top row (those won't be printed on the screen, don't worry). Don't forget to include one or more pixels for the spacing between characters! In the "standard" character set, I've chosen to have only one pixel width of space between characters, and a "blank space" character is 4 pixels wide. This works fairly nicely, but you can change it to suit your needs.

A small sample of proportional printing is included here. Won't that look nice in your next program?

NOTES from Editor: *A big thanks to Wes, with all Wes does, and it is a lot folks, Wes finds time to do projects for us, Time Designs, answer a lota mail, write programs, find time for family and of course his employer. ALL of the TS family benefits from the generosity of Wes and all the others who contribute their valuable time and talents to their user group and newsletters and BBSs. If you like being on the receiving end of the efforts of others, and do not contribute time, talent or sweat to the efforts of a user group, newsletter or BBS, there will soon be fewer or no sources of information. Several UGs and many BBSs have quit over the past year, several newsletters have reduce their number of issues and no replacements are in sight.* Wake up folks, smell the coffee, and lend a hand before it is too late.
The proportional printing program will be Uploaded to BUBBS under name of WESPPP.BAS. The font program may be uploaded at a later date. Data on BUBBS:(607)693-3359-7 days-24hours a day- 300 baud on from 5pm to 9am weekdays, 24 hours weekends-free.

On pages 7 thru 10 of this issue, as in earlier issues, we are running a printout of the TS2068 ROM disassembly by Wes Brzozowski. We are running extra copies of each page of the ROM Disassembly that we may offer members at the conculsion of the printout a complete set. With this issue we have nine sheets or 18 pages of printout. Our extra copy run is set at 50, it will be made available on a first come first serve basis with a minimial donation requested to cover postage.

```
1160 LET smin=8: LET daddr=daddr
-8
1170 FOR x=1 TO 8
1180 LET s=0: LET r=PEEK daddr:
LET daddr=daddr+1: IF r=0 THEN G
O TO 1220
1190 IF ABS (r/2-INT (r/2))>.1 T
HEN GO TO 1210
1200 LET s=s+1: LET r=INT (r/2+.
1): GO TO 1190
1210 IF s<smin THEN LET smin=s
1220 NEXT x
1225 IF smin=0 THEN LET smin=1
1226 LET q=2↑(smin-1)-1: IF smin
=1 THEN LET q=0
1230 POKE daddr-8,q
1240 NEXT c
1250 POKE 64200,15
1260 FOR j=64201 TO 64207: POKE
j,0: NEXT j
2000 BEEP .25,1: BEEP .25,15: BE
EP .25,1: BEEP .25,15
2010 SAVE CHR$ 253+CHR$ 245+CHR$
 8+"ING"+CHR$ 235+"YOU" LINE 300
0
2020 SAVE CHR$ 232+CHR$ 204+CHR$
 227+"THE "+CHR$ 175 CODE 64200,
1160
2025 RANDOMIZE USR 64970
2030 GO SUB 8000
2040 STOP
3000 CLEAR 64199: LOAD ""CODE
3010 RANDOMIZE USR 64970
3020 GO SUB 8000
3030 LPRINT
3040 LPRINT "You can now NEW the
 BASIC portion away;"
3050 LPRINT "This will Turn Off
the proportional printing..."
3060 LPRINT "But you can turn it
 on again, with"
3070 LPRINT TAB 60;"RANDOMIZE US
R 64970"
3080 STOP
8000 CLS : PRINT "This is an exa
mple of the boringold printing.
What else could wewant?"
8010 LPRINT AT 0,50;"Well, we CO
ULD wish for proportional printi
ng;"
8020 LPRINT "Look how neat it is
, and how easy it is to read!"
8030 LPRINT "...Then, count how
many additional characters   we
can get on a line."
8040 LPRINT
8050 LPRINT "REMEMBER...these ch
aracters are the SAME      SIZE
as the standard Timex character
set. Onlythe spacing between the
m has been changed!!!"
8060 RETURN
```

This is an example of the boring old printing. What else could we want?

Well, we COULD wish for proportional printing; Look how neat it is, and how easy it is to read! —Then, count how many additional characters we can get on a line.

REMEMBER—these characters are the SAME SIZE as the standard Timex character set. Only the spacing between them has been changed!

Optional Font Designer Program

```
  10 CLEAR 39999
  20 LET ba=40000
 100 PRINT AT 2,3;"▀▀▀▀▀▀▀▀▀▀"
 110 FOR f=3 TO 10: PRINT AT f,3
;"▀00000000▀": NEXT f
 120 PRINT AT 11,3;"▀▀▀▀▀▀▀▀▀▀"
 130 LET a=0: LET b=0
 200 OVER 1: PRINT AT a+3,b+4;"▀
": PAUSE 2: PRINT AT a+3,b+4;"▀"
: PAUSE 2: OVER 0
 210 LET a=a+(INKEY$="a" AND a<7
)-(INKEY$="q" AND a>0)
 220 LET b=b+(INKEY$="p" AND b<7
)-(INKEY$="o" AND b>0)
 230 IF INKEY$="m" THEN PRINT AT
 a+3,b+4; INVERSE 1;"X": PLOT b+
160,(8-a)+151
 240 IF INKEY$="n" THEN PRINT AT
 a+3,b+4;"O": PLOT INVERSE 1;b+1
60,(8-a)+151
 250 IF INKEY$="f" THEN GO TO 30
0
 260 IF INKEY$="d" THEN GO TO 40
0
 270 IF INKEY$="u" THEN GO TO 50
0
 275 IF INKEY$="s" THEN GO TO 10
00
 280 IF INKEY$="j" THEN GO TO 10
20
 290 GO TO 200
 300 INPUT "Which Character? ";c
$
 310 IF LEN c$<>1 THEN GO TO 300
 320 IF CODE c$<32 OR CODE c$>12
7 THEN GO TO 300
 330 LET c=CODE c$
 340 FOR f=0 TO 7
 350 POKE (c-32)*8+f+ba,PEEK (16
468+(f*256)): NEXT f: RUN
 400 INPUT "Which Character? ";c
$
 410 IF LEN c$<>1 THEN GO TO 400
 420 IF CODE c$<32 OR CODE c$>12
7 THEN GO TO 400
 430 POKE 23606,64: POKE 23607,1
55: PRINT AT 2,20;c$: POKE 23606
,0: POKE 23607,60
 440 FOR a=0 TO 7: FOR b=0 TO 7
 450 IF POINT (b+160,(8-a)+151)=
1 THEN PRINT AT a+3,b+4; INVERSE
 1;"X": GO TO 470
 460 PRINT AT a+3,b+4;"O"
 470 NEXT b: NEXT a
 480 LET a=0: LET b=0: GO TO 200
 500 PRINT AT 15,0;: FOR f=32 TO
 127: PRINT BRIGHT 1;CHR$ f;" ";
: NEXT f
 501 PRINT AT 15,0;" ";: OVER 1:
 FOR f=32 TO 127: POKE 23606,64:
 POKE 23607,155: PRINT BRIGHT 1;
CHR$ f;: POKE 23606,0: POKE 2360
7,60: PRINT " ";: NEXT f: OVER 0
: POKE 23606,0: POKE 23607,60
 510 BEEP .1,1: PAUSE 0: PAUSE 0
: RUN
1000 INPUT "File Name? ";f$: SAV
E f$CODE 40000,768: RUN
1020 INPUT "File Name? ";f$: LOA
D f$CODE 40000,768: RUN
```

```
  10 REM Program to perform Prop
ortional Printing.
  15 REM An upgraded version of
an entry in "YOUR SPECTRUM", Nov
 1985
  20 REM Changes include - Modif
ied for TS2068, Supports TAB, be
tter fonts, and works as in OVER
 0, instead of OVER 1
  25 REM When you RUN this progr
am, it will SAVE the actual Prop
ortional Print program to tape
  30 REM When THAT program is ru
n, all LPRINT statements will do
 proportional printing to the sc
reen.
  40 REM AT and TAB are supporte
d, but they now refer to pixel p
ositions, instead of character p
ositions.
  50 REM It will also be possibl
e to use PRINT, to do non-propor
tional printing on the screen.
  60 GO TO 585
  70 REM Subroutine to decode th
e following Hexadecimal DATA sta
tements
  75 READ n$: LET hi=CODE n$(1):
 LET lo=CODE n$(2)
  80 IF hi>57 THEN LET hi=hi-7
  85 IF lo>57 THEN LET lo=lo-7
  90 LET n=16*hi+lo-816
  95 RETURN
 100 DATA "21","00","A8","22","E
9","FE","2A","4F"
 110 DATA "5C","01","0F","00","0
9","01","DE","FD"
 120 DATA "71","23","70","C9","E
5","C5","D5","F5"
 130 DATA "CD","EA","FD","F1","D
1","C1","E1","C9"
 140 DATA "F5","3A","F0","FE","F
E","00","20","15"
 150 DATA "F1","FE","16","20","0
6","3E","FF","32"
 160 DATA "F0","FE","C9","FE","1
7","20","38","3E"
 170 DATA "FD","32","F0","FE","C
9","FE","FF","20"
 180 DATA "09","F1","32","E9","F
E","21","F0","FE"
 190 DATA "35","C9","FE","FE","2
0","0D","F1","47"
 200 DATA "3E","A8","90","32","E
A","FE","AF","32"
 210 DATA "F0","FE","C9","FE","F
D","20","0A","F1"
 220 DATA "32","E9","FE","3E","F
C","32","F0","FE"
 230 DATA "C9","F1","AF","32","F
0","FE","C9","FE"
 240 DATA "0D","20","09","CD","2
A","FF","3E","02"
 250 DATA "CD","30","12","C9","F
E","20","38","04"
 260 DATA "FE","80","38","02","3
E","3F","26","00"
 270 DATA "6F","29","29","29","E
B","2A","F4","FE"
 280 DATA "19","7E","32","F1","F
E","36","00","22"
 290 DATA "F2","FE","01","07","0
0","09","22","EE"
 300 DATA "FE","3A","EA","FE","F
E","A9","D2","0A"
 310 DATA "FF","CD","13","FF","E
D","48","E9","FE"
 320 DATA "CD","03","26","32","E
D","FE","22","EB"
 330 DATA "FE","06","08","C5","2
A","EE","FE","7E"
 340 DATA "28","22","EE","FE","6
F","3A","F1","FE"
 350 DATA "16","FF","5F","4F","3
A","ED","FE","FE"
 360 DATA "00","28","12","47","2
6","00","CB","3D"
 370 DATA "CB","1C","CB","38","C
B","FB","CB","1A"
 380 DATA "A7","10","F3","42","4
B","ED","5B","EB"
 390 DATA "FE","1A","A1","B5","1
2","CD","37","FF"
 400 DATA "3A","ED","FE","FE","0
0","28","09","13"
 410 DATA "1A","A0","B4","12","C
D","37","FF","1B"
 420 DATA "2A","EB","FE","CD","F
7","FE","22","EB"
 430 DATA "FE","C1","10","AF","3
A","F1","FE","2A"
 440 DATA "F2","FE","77","3A","E
9","FE","47","3A"
 450 DATA "F6","FE","80","32","E
9","FE","C9","00"
 460 DATA "A8","00","00","00","0
0","00","00","00"
 470 DATA "00","00","C8","F9","0
0","F5","7C","25"
 480 DATA "E6","07","20","0A","7
D","D6","20","6F"
 490 DATA "38","04","7C","C6","0
8","67","F1","C9"
 500 DATA "3A","F1","FE","2A","F
2","FE","77","CF"
 510 DATA "04","06","08","3A","F
1","FE","4F","A7"
 520 DATA "CB","39","30","03","0
5","18","F8","78"
 530 DATA "32","F6","FE","3A","E
9","FE","80","D0"
 540 DATA "AF","32","E9","FE","3
A","EA","FE","D6"
 550 DATA "08","32","EA","FE","C
9","E5","F5","7A"
 560 DATA "CB","0F","CB","0F","C
B","0F","E6","03"
 570 DATA "F6","58","67","6B","3
A","8D","5C","77"
 580 DATA "F1","E1","C9"
 585 CLEAR 64199: PRINT AT 10,0;
"This Will Take a While...": PRI
NT "     ...Why not take a break?"
 590 REM ************************
 610 FOR j=64970 TO 65356: GO SU
B 70: POKE j,n: NEXT j
 700 REM ************************
 710 REM Now that the machine co
de is in, we'll derive the compr
essed fonts from the standard Ti
mex character set
1000 LET addr=PEEK 23606+256*PEE
K 23607+256+8: LET daddr=64208
1010 FOR c=1 TO 95
1020 LET smin=16
1030 FOR x=1 TO 8
1040 LET l=PEEK addr: LET addr=a
ddr+1
1050 IF l<16 THEN LET s=16: GO T
O 1090
1060 IF l<32 THEN LET s=8: GO TO
 1090
1070 IF l<64 THEN LET s=4: GO TO
 1090
1075 IF l<128 THEN LET s=2: GO T
O 1090
1080 LET s=1
1090 IF s<smin THEN LET smin=s
1100 NEXT x
1110 LET addr=addr-8
1120 FOR x=1 TO 8
1130 POKE daddr,(PEEK addr)*smin
1140 LET addr=addr+1: LET daddr=
daddr+1
1150 NEXT x
```

To Frank and all the people who helped put on the 87 ComputerFest - Three CHEERS and and very big BIG T H A N K YOU! Though no local members were able to attend, the reports coming in from goers is all up beat, and all are looking forward to next year!!An estimated 10000 volunteer manhours went into the production of the FEST. Is there any other orphan or NON orphan computer group that has so much for the users and their little orphan computers? I guess TS users are a special breed and the folks who put on ComputerFests 86 & 87 are at the top of the list.

NEW: "PAINT"-by Dave Franson, 3534 A E. Squire Ave., Cudahy, WI 53110-$19.95. 8x normal color resolution, 25 unique functions, joystick control, menu-drive, HiRes, greyscale screen dumps to TS2040 and Epson compatiables, Full color hires dumps to Canon color ink jet and compatiables, supports AERCO centronics IF. with 24 page manual. as seen in SMUG Bytes, May 87

NEWS: On the down side of the TS world, it has been learned that ZX Computing has called it quits- it was a Very Great magazine until it went heavy on games about a year ago. Blame on declining readership, not content?? They are refunding subscription monies. This info from SLUG newsletter, June '87, Sinclair Louisville Users Group,4122 Wallingford, Louisville, KY 40218 2365

NEW:Desktop Publisher for the TS2068, $19.95 + 1.25 shipping, Charles Stelding, 1415 South Baxter, Tyler, TX 75701. Make headlines, use screens, design fonts, elimanate scissors, glue and messy results, use for newsletters, church or PTA bulletins or whatever!

NEWS: Info here is from *COMPUTE!* May 1987 magazine page 51, "12 Special Bulletins Boards"

Name	Telephone	Specific info
Aviation Connection	214-245-5633	Dallas, TX dedicated to pilots and aeronautics buffs
Bullet 'N Board	703-971-4491	Silver Spring VA, NRA info,firearms, legislative happenings,special registration process-free board. SYSOP is Tanya Metaksa
The Casino BBS	609-652-6030	Atlantic City, NJ- You wont win but you dont lose either includes nightlife and entertainment guides, best slot payoffs
Collectors Network	213-204-0646	Los Angeles, CA Info and data on collectibles-coins,cards,modem talk with SYSOP Harry Rosenfeld.
Crime Prevention	214-578-1311	Plano, TX SYSOP Cpt. Lyndon Payne, gives tips on crime stopping, personal protection, check out the "Crime of the Week"
Cryptologic Research	703-237-4322	McLean, WV hours 5:30pm-8:00am EST M-F coded messages turn you on or do you have a computer security problem? Call SYSOP Robert Juneman
Electronic Call Board	718-499-1633	Brooklyn, NY dedicated to the performing arts SYSOP Bob Ballard keeps casting notices, schedules of stage shows around the country, more!!
The Guideboard	415-864-3858	San Francisco-taxi cab drivers BBS find out what's really happening in the Golden gate City!!
MIDI World Network	213-826-4288	Los Angeles, a devoted BBS to MIDI related computer use .
Survival Communication	707-545-0746	Napa Valley, CA SYSOP Don Kulha hosts conferences on medicine, food, energy, communications, weapons, and vehicles.
Top of the Rockies	303-963-3688	Roaring Fork, CO SYSOP Barry Clements gives out ski info for Colorado.
The Train Board	513-398-0928	Mason, OH- model train buffs- radio controlled hobbies-SYSOP Decker Dogget wants to talk to you!

NEWS:To all members we at SINCUS now have our own conference on TCCS-785-2118 after you log on, just enter J 5 and you are on! This is not restricted to SINCUS members but open to and for all. Scott Wiltsey the SYSOP has the computer on from 9am to 11pm-seven days a week. Use it or lose it!

ALERT-modem users beware of using the same password on every BBS- locally a new BBS's files were used by an individual to obtain passwords. A lot of messages on other BBSs were erased by this individual using the perloined passwords. I was one lazy user, and had used the same on every BBS, now I am changing all my passwords.

NEWS: We here at SINCUS have been getting tapes from members with some outstanding programming efforts on them, if not in programming talent, surely in time of copying long long programs out of British magazines. With John Colonna's help, I hope we can start getting the tape exhange program rolling. It will take some time, so please be patient. I'd like to thank Richard Hurd, Joan Kealy and Harold Crandall for recent tapes. Several other members have helped out in the past, and to those also we will get updated material to you.

Over

New,News Cont.....

NEWS:In the May/June 1987 issue of Time Designs, on page 13, there is a program called "CK type". This is supposed to aid those who type in a long article and commit a typo, and then may want to commit something else. This gives a checksum type figure for every line of BASIC. It is only used with submitted listings, to give future listing copiers a figure to compare to. This will work on the TS2068, but many of the listings are in British mags, and I am not aware of any sort of checksum being used there. It is a very good idea. Passing works around via BBSs saves many the tedious job of typing in several pages of listings. But some kind soul has to type it in and then donate his/her efforts to the rest of us. Stan Lemke developed and donated this program to the TS community thru Time Designs.

Secretary's Notes Cont----------

A Scroll of the Screen and Hello and Welcome to Elliana Tartarini, Exeter, NH: Don Berry, Orlando FL: Robert Tisdale, Ellisville, MS: David Maguire, E.Greenbush, NY: Mark Miller, Baldwin Park, CA: John Austin, McKenney, TX: Hal Bellinson, Troy, NY and Ken Diederich, Jacksonville, AR and a real big thanks to renewing members, Richard Hurd, Warrenton OR and Ian Robertson, Islington, Ont.(saw your pic in TDM-I think?) Thank you all for your support and we look forward to hearing from you in the form of printable input to our newsletter. Keep those articles coming!!

----------advertisement----------

CLONE--CLONE--CLONE--To make a tape backup of that $25 original program, or easily duplicate copies of that program you are going to market, get CLONE. Can LOAD all BASIC & MC in one step and then SAVE it all in one more step. On TS2068 programs this is all you need. For the more sophisticated copy protection in many Spectrum programs, it can use 2 tape recorders, and the TS2068 (as a noise filter and pulse stretcher) to also make an acceptable backup copy. Runs under both TS2068 and Spectrum ROMs. Easily transferred to the Sinclair Microdrives (though still for making tape copies), so it can probably be transferred to other mass storage systems, as well. Dues paying members of SINCUS can obtain a copy and documentation for $6, shipping included, as well as user support. Make check out to SINCUS. Mail to SINCUS, 1229 Rhodes Road, Johnson City, NY 13790. CLONE--CLONE nonmembers can obtain CLONE thru RMG, 1419 1/2 7th Street, Oregon City, OR 97045;write for price;send 12 SASEs and get on a special price offering mailings plus a $5 off coupon.

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Members can get a free ad per subscription-22 lines x 32 characters per line. Same Size for non-members is $2, commercial rate for same is $3. Subscription rate is $8 (US) for 6 issues a year, US, Canada and Mexico. Swaps maintained with any TS user group as long as material is exchanged every 90 days. Should SINCUS NEWS discontinue publishing all subscribers will be refunded unused portion of subscription, less postage expenses.
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Does the room temperature SUPERconductor cometh and what does it bode for us?

See you in September, have a good summer and keep TSing!